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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,090	11/20/2003	Chang-Jung Lee	2001068	1952
7590	02/24/2005		EXAMINER	
Keith Kline PRO-TECHTOR INTERNATIONAL SERVICES 20775 Norada Court Saratoga, CA 95070-3018			DINH, TRINH VO	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,090

Applicant(s)

LEE, CHANG-JUNG

Examiner

Trinh Vo Dinh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawing

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "said first metallic layer and said second metallic layers are multi-layer structures respectively" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 11 is objected to because of the following informalities:

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In claim 11, lines 5-8, "said first radiator" and "said second radiator" should be changed to --a first radiator-- and --a second radiator--respectively since "said first radiator" and "said second radiator" have no antecedent basis.

In claim 11, lines 10-11, "a first radiator" and "a second radiator" should be changed to --said first radiator--and --said second radiator" respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, line 2, it is unclear what the recitation "one first metallic layer, which is corresponding to said first radiator in layout " means?

In claim 7, lines 4-5, it also unclear what a recitation "one second metallic layer, which is corresponding to said second radiator in layout " means?

The deficiencies are found in claim 11, lines 5-8 which require the same clarifications/corrections.

In claims 8 and 17, what is meant by "structures" in the recitation "*said first metallic layer and said second metallic layer are multi-layer structures respectively*"? Do "structures" mean as substrates or printed circuit boards? If they are, the specification and drawings need

to be amended to include the structures because in the instant specification and drawings, only one structure (substrate/ PCB 100) is disclosed.

Claims 9-10 and 12-19 are rejected because of their dependencies.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomas et al (USP 5,319,377).

With respect to claim 1, Thomas discloses, in Fig. 1(a) and 1(b), a substrate (14), made of a dielectric material (col. 2, line 63), wherein said substrate has a first surface and a second surface which is essentially parallel to said first surface, a first radiator (16), formed on said first surface, a second radiator (18), formed on a portion of said second surface, wherein said portion of said second surface is not overlapped with an area of said second surface on which said first radiator is projected, a first feeding point (24), installed on one end of said first radiator near said second radiator, and a second feeding point (26), installed on the area of said first surface adjacent to said first feeding point, wherein said second feeding point (26) is electrically connected to said second radiator (col. 3, lines 22-35).

With respect to claims 4 and 6, Thomas discloses the first radiator (16) being essentially identical to said second radiator (18) in geometrical shape, skew-symmetrical to each other on said substrate.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitchener (USP 6,018,324).

With respect to claim 1, Kitchener discloses, in Fig. 3(b), 5(a) and 5(b), a substrate (PCB), made of a dielectric material (col. 3, line 30-35), wherein said substrate has a first surface and a second surface which is essentially parallel to said first surface, a first radiator (a dipole arm in Fig. 3(b)), formed on said first surface, a second radiator (the other dipole arm in Fig. 3(b)), formed on a portion of said second surface, wherein said portion of said second surface is not overlapped with an area of said second surface on which said first radiator is projected, a first feeding point (SMA in Fig. 5(b)), installed on one end of said first radiator near said second radiator, and a second feeding point (via in Figs 5(a) 5(b)), installed on the area of said first surface adjacent to said first feeding point, wherein said second feeding point is electrically connected to said second radiator (col. 5, lines 21-39).

With respect to claims 2-3, Kitchener discloses the substrate being a printed circuit board and the radiators being printed on the PCB (col. 3, lines 30-34).

With respect to claims 4-6, Kitchener discloses, in Fig. 5(a) or 5(b), the first radiator (one dipole arm) being essentially identical to said second radiator (the other dipole arm) in geometrical shape, essentially rectangular and skew-symmetrical to each other on said substrate.

Allowable Subject Matter

8. Claims 7-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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9. Claims 11-19 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and rewritten to overcome the objection set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter:

The cited art of record fails to teach the dipole antenna further comprising at least one first metallic layer which is corresponding to the first radiator in layout, and at least one second metallic layer which is corresponding to the second radiator in layout, and the second metallic layer is electrically connected to the second radiator.

Inquiry

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access

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to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197
(toll-free).

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A handwritten signature in black ink, appearing to read 'Trinh Vo Dinh', followed by a long horizontal line.

Trinh Vo Dinh
February 20, 2005